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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,026	09/22/2003	Jai Hoon Kim	SEMIRE-PA-US-6	1396

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EXAMINER	
CLOW, LORI A	

ART UNIT	PAPER NUMBER
1631	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,026	KIM ET AL.	
	Examiner	Art Unit	
	Lori A. Clow, Ph.D.	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicants' arguments, filed 26 June 2006, have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1 and 2 are currently pending.

Claim Rejections - 35 USC § 101

Non-Statutory Subject Matter

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 2 remain rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, for the reasons set forth in the previous Office Action.

Response to Applicant's Arguments

1. Applicant argues that "the method performs time and cost-effective modeling of biological networks because the database sequence data is simultaneously collected and analyzed to all queued requests. This result/outcome of the claimed method is concrete, tangible, and useful".

This is not persuasive, as the Examiner maintains that the claimed method does not **result** in a physical transformation to a different state or thing. Mere data transformation does not equate to a physical transformation (see OG notice of 11/22/05). Further, the Examiner contends that the claims do not produce a useful, concrete, or tangible **result**. That result must be

specifically cited in the claim or flow inherently therefrom. In the instant case, time and cost effective modeling does not constitute a useful, concrete, or tangible result. The mere fact that the method is limited to be one which is computer-implemented (performed on a server) does not render the method itself statutory. The method appears to be one of data manipulation and it is not clear what the result is actually intended to be. Thus there is no concrete result. Nor is there a tangible result, since no result is communicated to a user.

The rejections are hereby maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite. What limitation of the METHOD is intended by limiting it to be on a computer readable recording medium? It is unclear if applicant intends to further limit the method to include a step of recording the method on a medium. Clarification is requested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,708,224 (Tsun et al.) in view of Li et al. (Bioinformatics (2000) Vol. 16, No.12, pages 1105-1110). ***This is a new grounds of rejection necessitated by Applicant's amendments.***

The instant clams are drawn to a method for handling a bioinformatics database and storing a plurality of gene sequences comprising receiving a first request for comparison of a gene sequence to one of a plurality of user terminals and storing the first request; checking if there are previous requests for gene sequence comparisons in a queue; if there are previous requests, comparing one of the plurality of gene sequences in the database with all of the requests in the queue; identifying the completed requests; removing completed requests from the queue; and returning to the checking step unit all requests have been removed from the queue. The examiner interprets claim 2 to limit the method to be one held on a recording medium.

Tsun et al. teach a method, system and computer program product for coordinating operations for a plurality of interrelated tasks executed on a computer which utilizes a work in progress queue and a work pending queue (column 2, lines 35-38). Tsun teaches that the method provides a designation of a desired state of a first object from a first one of a plurality of

interrelated tasks. A second one of the plurality of tasks is requested to update the first object. Updating operations include receiving the desired state, determining the actual state of the first object, and determining if the actual state is different from the desired state (column 3, lines 24-40). Tsun further teaches that a task refers to a program or group of programs executing on a computer or a plurality of computers connected over a communications network. This may include a main code thread which, in turn, initiates additional code threads to process individual instances of requests. This is a multi-taking computer device (column 5, lines 1-4). The method provides for a plurality of requests for work in a pending queue to be performed concurrently (column 5, lines 45-64). Once the processing of the request is completed the executor module updates the actual state object and de-queues the request from its work in progress queue (column 7, lines 54-56).The requests are normally processed on a first in/first out basis (column 8, lines 39-40). This method can be executed with object oriented databases and the method provides for a computer readable medium (column 4, lines 29-41).

Tsun does not specifically teach applications for a bioinformatics database, per se. However, Li teaches the Saturated BLAST package for performing intermediate sequence searches in an efficient and automated manner (abstract).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to have used the queue management method of Tsun with the database of Li in order to effectively manage gene sequence comparisons. One would have been motivated to do so because Tsun states that the computer, method and programs may be loaded onto other programmable data processing apparatus to produce a computer implemented process such that the instructions provide steps for implementing the functions specified (column 22, lines 28-50).

Conclusion

No claims are allowed.

The outstanding rejection under 35 USC 101 for Lack of Utility has been withdrawn in view of the amendments to the claims.

The outstanding rejections under 35 USC 112, 2nd paragraph have been withdrawn in view of the amendments to the claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

September 13, 2006
Lori A. Clow, Ph.D.
Art Unit 1631
Lori A Clow

MARJORIE A. MORAN
PRIMARY EXAMINER
Marjorie A. Moran
9/18/06